



UL 2353

STANDARD FOR SAFETY

Single- and Multi-Layer Insulated Winding Wire

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UL Standard for Safety for Single- and Multi-Layer Insulated Winding Wire, UL 2353

Third Edition, Dated October 10, 2016

Summary of Topics

The third edition of ANSI/UL 2353 has been issued and reflects the latest approval date as an American National Standard and includes the following changes:

- ***Revision of requirements to specify solvent-based enamel.***
- ***Revision of requirements for taped wrapped wire.***
- ***Revision of requirements to incorporate fully insulated wire (FIW).***

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated March 25, 2016 and August 26, 2016.

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UL 2353

Standard for Safety for Single- and Multi-Layer Insulated Winding Wire

First Edition – July, 2004
Second Edition – May, 2012

Third Edition

October 10, 2016

This ANSI/UL Standard for Safety consists of the Third Edition.

The most recent designation of ANSI/UL 2353 as an American National Standard (ANSI) occurred on October 10, 2016. ANSI approval for a standard does not include the Cover Page, Transmittal Pages and Title Page.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at <https://csds.ul.com>.

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INTRODUCTION

1 Scope

1.1 This Standard contains requirements for single and multi – layer insulated winding wire used in transformers without interleaved insulation; and solid insulation and insulated winding wire without interleaved insulation intended for use in accordance with the Standard for Information Technology Equipment – Safety – Part 1: General Requirements, UL 60950-1, the Standard for Medical Electrical Equipment, Part 1: General Requirements for Safety, UL 60601-1, or the Safety of Power Transformers, Power Supplies, Reactors and Similar Products – Part 1: General Requirements and Tests, IEC 61558-1. These requirements are not intended to prohibit use of this type of winding wire in equipment covered by the scope of other standards when these requirements are determined to be compatible with those standards.

1.2 This Standard also contains requirements for enamelled Fully-Insulated Wire (FIW) that are deemed suitable for use in end-products standards. The enamelled winding wire shall be a designated NEMA Type MW 85 as specified in the Standard for Magnet Wire, NEMA MW 1000.

1.3 These requirements cover winding wires with a diameter between 0.05 mm (0.002 in) and 5.0 mm (0.2 in) and MW 85 solvent-based enamel coated winding wires with a diameter between 0.040 mm (0.0016 in) and 1.60 mm (0.06 in).

1.4 The winding wire covered by this Standard shall also comply with the infrared analysis requirements in the Standard for Polymeric Materials – Short Term Property Evaluations, UL 746A.

1.5 This Standard does not cover solvent-based enamel coated magnet wire unless as specified in 1.2. See the Standard for Systems of Insulating Materials – General, UL 1446. If the desired usage of the single- and multi-layer Insulated winding wire is above Class 105 (A), additional testing of the insulation system would be required in accordance with UL 1446.

2 General

2.1 Units of measurement

2.1.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.